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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/581,594	06/15/2000	TERUO KUBOTA	1422-428P	9805

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EXAMINER
DOUYON, LORNA M

ART UNIT	PAPER NUMBER
1751	

DATE MAILED: 04/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

mk-6

Office Action Summary	Application No.	Applicant(s)	
	09/581,594	KUBOTA ET AL.	
	Examiner	Art Unit	
	Lorna M. Douyon	1751	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to ~~communication(s) filed on~~ *RCE filed on February 3, 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *15* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 3, 2003 has been entered.

2. The cancellation of claim 2 is acknowledged. Claims 1, 3-13 are pending.

Specification

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the

title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

In the instant case, it is suggested that the abstract be limited to 150 words in length.

Claim Rejections - 35 USC § 112

4. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The dependency of this claim which recites "any one of claims1 to 4" is incorrect because claim 2 has been canceled. In addition, the recital of "a Froude number of 2 or more" in line 5 is indefinite because "or more" is open-ended which may read on values outside the upper limit of "4" in claims 1, 3 and 4. It is suggested that the Froude number be replaced with a range from 2 to 4. Finally, clarification is requested in the recital of "disintegration impellers have a Froude number of 200 or more" (see last two lines of the claim), because on page 22, line 15, the disintegration impellers have a Froude number of 200 or less.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has

fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 1, 3, 5-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Kubota et al. (US Patent No. 6,376,453), hereinafter "Kubota".

In Example 1, Composition 3, Kubota teaches a process for the preparation of detergent particles wherein 100 parts by weight of Base Particles 1, prepared by spray-drying zeolite, sodium polyacrylate and sodium carbonate, said base particles having a bulk density of 620 g/liter an average particle size of 225 μm and a particle strength of 250 kg/cm^2, were supplied in Lodige Mixer, which is equipped with a jacket having 60°C heated water, and to which was added 15 parts by weight of nonionic surfactant heated to 50°C, 15 parts by weight of anionic surfactant and 1 part by weight of polyethylene glycol (a melting point-elevating agent of nonionic surfactant, which is equivalent to the immobilization agent for the surfactant) and surface coated with 10 parts by weight of fine powdered crystalline aluminosilicate resulting in detergent

particles having a bulk density of 660 g/liter, a degree of particle growth of 1.07 and a sixty-second dissolution rate of 97% (see col. 26, line 20 to col. 27, line 40). Kubota also teaches that the preferred mixers are those devices less likely to have strong shearing force against the base particle (i.e. those mixers less likely to cause breakdown of the base particle), such as the Nauta Mixer (with impellers having a shape of a screw) and Lodige Mixer (with impellers having a shape of a paddle) (see col. 20, lines 4-25). Kubota teaches the limitations of the instant claims. Hence, Kubota anticipates the claims.

7. Applicant cannot rely upon the foreign priority papers to overcome this rejection (i.e. Kubota) because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was

commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 1, 3-9, 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita '516.

Yamashita '516 teaches a process for producing nonionic detergent granules having a bulk density of from 0.6 to 1.20 g/ml (600 to 1200 g/l) which comprises mixing a detergent material comprising a nonionic surfactant, granulating the obtained mixture by agitating in an agitating mixer provided at the center position thereof with a rotation shaft having an agitation impeller wherein the agitation impeller agitates the mixture at a Froude number of from 1 to 4, and mixing the obtained granules with from 0.5 to 30 parts by weight of fine particles of a silicate compound having a mean primary particle size of 10 μm or less to thereby coat the surface of the granules with the fine particles, whereby the nonionic detergent granules have excellent granules have excellent powder fluidity and non-caking property (see claim 1). Yamashita '516 also teaches that the average particle size of the spray dried particulate preferably ranges from 100 to 600 μm, more preferably from 150 to 400 μm (see col. 8, lines 63-65) and the mean particle size of the nonionic detergent granules ranges from 250 to 800 μm, preferably from 300 to 600 μm (see col.

16, lines 12-24). In Examples 7-10, Yamashita '516 exemplifies the preparation of nonionic detergent granules by adding 15 or 30 parts by weight nonionic surfactant to spray dried particulates having a bulk density of 0.70 or 0.43 g/ml and a mean particle size of 210 or 220 μm, agitating the mixture at a Froude number of 2.6, and thereafter adding 15 parts by weight Zeolite 4A having a primary particle size of 3 μm to produce nonionic detergent granules having a bulk density of 0.81, 0.72, 0.80 and 0.70, respectively and having a mean particle size in the range 390 to 420 μm (see Table 3 under cols. 23-24; col. 21, line 30 to col. 22, line 63). Yamashita '516 also teaches that the mixer is effected by an agitation impeller attached to the agitation shaft, by rotating spiral ribbon impeller in the fixed vessel, or by a mixing vessel provided with a screw inside the vessel in which mixing of materials is effected by the revolution of a rotating screw around an axis parallel to the vessel wall (see col. 5, lines 7-41). Yamashita '516 also teaches that in general, the temperature of the content in the agitating mixer ranges from 30 to 60°C (see col. 8, lines 27-30). Yamashita '516 also teaches that a binder may be added in amounts from 0.1 to 10 parts by weight, either at the time of mixing the detergent material or the time of granulating the mixture of the detergent material, the binder, for example being polyethylene glycol or polyoxyethylene alkyl ethers (see col. 13, lines 43-58). Yamashita '516, however fails to specifically disclose (a) the nonionic detergent granules having a degree of particle growth of 1.3 or less (the degree of particle growth is defined in the specification on page 36 as the average particle size of final detergent particles divided by the average particle size of base particles), (2)

the spray dried particles having a surfactant-supporting ability of 20 ml/100g or more and the dissolution rate of the nonionic detergent granules of 90% or more.

With respect to difference (1), it would have been obvious to one of ordinary skill in the art at the time the invention was made to reasonably expect the degree of particle growth of the nonionic detergent granules of Yamashita '516 to be within those recited because the average particle sizes of the spray dried particles and the mean particle sizes of the nonionic detergent granules overlap with each other, hence the degree of particle growth would also overlap and would read on the degree of particle growth as those recited.

With respect to difference (2), it would have been obvious to one of ordinary skill in the art at the time the invention was made to reasonably expect the spray dried particles to have a surfactant-supporting ability of 20 ml/100g or more and the dissolution rate of the nonionic detergent granules of 90% or more because similar process and ingredients having overlapping proportions and particle sizes have been utilized.

11. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kubota as applied to the above claims, and further in view of Yamashita '516.

Kubota teaches the features as described above. Kubota, however, fails to disclose mixing operation carried out by using a mixer with impellers having a shape of a ribbon.

Yamashita '516 teaches the features as described above. In particular, Yamashita '516 teaches the equivalency of a mixer with impellers having the shape of a screw with one having the shape of a ribbon for mixing nonioic surfactant with spray dried particles (see col. 5, lines 30-41).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the mixer with impellers having a shape of a screw with one having a shape of a ribbon because the substitution of art recognized equivalents as shown by Yamashita '516 is within the level of ordinary skill in the art.

12. Claims 1, 3-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita '501 .

Yamashita '501 teaches a method for producing nonionic detergent granules which comprises (I) blending 10 to 60 parts by weight in a total amount of at least one of nonionic surfactant and aqueous nonionic surfactant solution, and acid precursor of the anionic surfactant capable of having a lamellar orientation; 10 to 80 parts by weight of at least one of alkali builder and alkali, porous oil-absorbing carrier; 0 to 10 parts by weight of neutral or acidic builder; and 10 to 80 parts by weight of spray-dried particles (see col. 5, lines 45-53), wherein the spray-dried particles are obtained by spray-drying a water slurry containing one or more organic or inorganic builders (see col. 5, lines 22-25); (II) heating the mixture obtained in step (I) at least up to a temperature capable of neutralizing the acid precursor of the anionic surfactant in an agitating mixer and granulating while tumbling the agitating mixer thereby increasing a bulk density, to give

nonionic detergent granules having a bulk density of from 0.6 to 1.0 g/ml (600 to 1200 g/l) (see abstract, col. 3, lines 43-60). Yamashita '501 also teaches that the mixer is effected by an agitation impeller attached to the agitation shaft, by rotating spiral ribbon impeller in the fixed vessel, or by a mixing vessel provided with a screw inside the vessel in which mixing of materials is effected by the revolution of a rotating screw around an axis parallel to the vessel wall (see col. 15, lines 8-40). Yamashita '501 also teaches that the agitating mixer equipped with agitating impellers is controlled such that the Froude number is from 1 to 4 (see col. 17, lines 30-48). Yamashita '501 also teaches that the average particle size of the spray dried particulate preferably ranges from 100 to 600 μm, more preferably from 150 to 400 μm (see col. 11, lines 31-34) and the mean particle size of the nonionic detergent granules ranges from 250 to 800 μm, preferably from 300 to 600 μm (see col. 20, lines 17-23). In Example 10, Yamashita '501 exemplifies a process for the preparation of nonionic detergent granules having a bulk density of 0.75 g/ml (750 g/l) which process comprises agitating in a Lödige Mixer dense ash (average particle size: 290 μm), zeolite 4A and spray-dried granules (bulk density: 0.45 g/ml; average particle size: 245 μm), adding while agitating nonionic surfactant and fatty acid mixture to the mixer, and surface coating the detergent granules with zeolite 4A (see col. 25, line 53 to col. 26, line 5; Tables 4 and 6 under col. 27-28).Yamashita '501, however fails to specifically disclose (a) the nonionic detergent granules having a degree of particle growth of 1.3 or less (2) the spray dried particles having a surfactant-supporting ability of 20 ml/100g or more and the dissolution rate of the nonionic detergent granules of 90% or more.

With respect to difference (1), it would have been obvious to one of ordinary skill in the art at the time the invention was made to reasonably expect the degree of particle growth of the nonionic detergent granules of Yamashita '501 to be within those recited because the average particle sizes of the spray dried particles and the mean particle sizes of the nonionic detergent granules overlap with each other, hence the degree of particle growth would also overlap and would read on the degree of particle growth as those recited.

With respect to difference (2), it would have been obvious to one of ordinary skill in the art at the time the invention was made to reasonably expect the spray dried particles to have a surfactant-supporting ability of 20 ml/100g or more and the dissolution rate of the nonionic detergent granules of 90% or more because similar process and ingredients having overlapping proportions and particle sizes have been utilized.

Response to Applicants' Arguments

13. Applicant's arguments filed on February 3, 2003 have been fully considered but they are not persuasive.

With respect to the rejection based upon "Yamashita '516", Applicants argue that in step (2) in claim 1 of Yamashita '516 the mixing step is a compression and rolling granulation so that the base particles would undergo breakdown which is opposite to the mixing conditions defined in claim 1 of the present application wherein the ((a) component) does not substantially undergo breakdown. Applicants also argue that a degree of particle growth of the thus obtained detergent

particles would be rather large in the invention of Yamashita '516 and as such would not fall within the parameters of the instant invention.

The Examiner respectfully disagrees with the above arguments because the argument "compressing and rolling granulation of Yamashita '516 is different from the mixing conditions as defined in claim 1 of the present application such that the (a) component does not substantially undergo breakdown" is a conclusionary statement unsupported by factual evidence and is therefore insufficient to establish unexpected results. See *In re Linder*, 173 USPQ 356 (CCPA 1972). With respect to the degree of particle growth, as already stated above, it would have been obvious to one of ordinary skill in the art at the time the invention was made to reasonably expect the degree of particle growth of the nonionic detergent granules of Yamashita '516 to be within those recited because the average particle sizes of the spray dried particles and the mean particle sizes of the nonionic detergent granules overlap with each other, hence the degree of particle growth would also overlap and would read on the degree of particle growth as those recited.

With respect to the rejection based upon "Yamashita '501", Applicants argue that the process recited in claim 1 include the step of "granulating said gelled product which acts as a binder" and based on this step, it is submitted that the base particle would undergo breakdown and thereby a degree of particle growth would occur in the Yamashita '501 particles that would be greater than the recitation of "1.3 or less" in Applicants' pending independent claims 1, 3 and 4.

The Examiner respectfully disagrees with the above arguments because as already mentioned above the average particle sizes of the spray dried particles and the mean particle sizes of the nonionic detergent granules of Yamashita '501 overlap with each other, hence the degree of particle growth would also overlap and would read on the degree of particle growth as those recited.

14. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. The references are considered cumulative to or less material than those discussed above.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lorna M. Douyon whose telephone number is (703) 305-3773. The examiner can normally be reached on Mondays-Fridays from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta, can be reached on (703) 308-4708. The fax phone number for this Technology Center is:

(703) 872-9311 - for Official After Final faxes
(703) 872-9310- for all other Official faxes.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center receptionist whose telephone number is (703) 308-0661.

Lorna M. Douyon

April 28, 2003

Lorna M. Douyon
Primary Examiner
Art Unit 1751